

# Examiner's Amendment

## Amendments

1. (Currently Amended) A crystal form of nateglinide having a melting point of about 108°C; or solvates thereof obtained by a process comprising:

dissolving nateglinide in any of its forms in a first solvent in which nateglinide is readily soluble at an ambient temperature to form a solution;

treating the solution with a second solvent which is miscible with the first solvent, and in which nateglinide is only poorly soluble to induce precipitation of crystals of nateglinide, wherein the second solvent is water containing hydroxypropylmethylcellulose; and

isolating and drying the precipitated crystal form of nateglinide.

2. (Currently Amended) A method for the production of crystal form of ~~claim 1~~ nateglinide, comprising: wherein the method comprises;

(a) dissolving nateglinide in any of its forms in a first solvent in which nateglinide is readily soluble at an ambient temperature to form a solution; <sup>wherein the first solvent is a mixture of ethanol and toluene or a mixture of methanol and ethyl acetate</sup>

(b) treating the solution with a second solvent which is miscible with the first solvent, and in which nateglinide is only poorly soluble to induce precipitation of crystals of ~~claim 1~~ nateglinide, wherein the second solvent is water containing <sup>about 0.5 to about 3% by weight of</sup> hydroxypropylmethylcellulose; and

(c) isolating and drying the precipitated crystal form of ~~claim 1~~ nateglinide.

3. (Currently Amended) The method of claim 2, wherein the precipitation of the crystal form of ~~claim 1~~ nateglinide is induced by stirring, cooling or by adding seed crystals of nateglinide.

4. (Original) The method of claim 2, wherein the ambient temperature ranges from room temperature to the boiling point of the solvent.

5. (Currently Amended) The method of claim 2, wherein the crystal form of ~~claim 1~~ nateglinide is dried under atmospheric or reduced pressure at a temperature ranging from room temperature to 70°C.

6. (Original) The method of claim 2, wherein the first solvent is a mixture of ethanol and toluene;

7. (Canceled)

8. (Currently Amended) The method of claim 7 2, wherein the first solvent contains 50% of ethanol by volume; the second solvent contains 1% of hydroxypropylmethylcellulose; and the ratio of the first solvent to the second solvent is 1 to 7 by volume.

9. (Currently Amended) The method of claim 8, wherein the ambient temperature is room temperature; and the crystal form of ~~claim 1~~ nateglinide is dried under reduced pressure at a temperature ranging from room temperature to 50°C.

10. (New) The crystal form of nateglinide according to claim 1, wherein in the process steps the first solvent contains 50% of ethanol by volume; the second solvent contains 1% of hydroxypropylmethylcellulose; and the ratio of the first solvent to the second solvent is 1 to 7 by volume.

11. (New) The crystal form of nateglinide according to claim 10, wherein in the process steps the ambient temperature is room temperature; and the crystal form of nateglinide is dried under reduced pressure at a temperature ranging from room temperature to 50°C.

solution with another solvent which is miscible with the first solvent, and in which nateglinide is only poorly soluble to induce precipitation of the R'-type crystals of nateglinide, isolating and drying the precipitated crystal form of nateglinide, including solvates such as hydrates, methanolates, ethanolates and acetonates.

Other objects, features, advantages and aspects of the present invention will become apparent to those skilled in the art from the following description, appended claims and accompanying drawings. It should be understood, however, that the following description, appended claims, drawings and a specific example, while indicating a preferred embodiment of the invention, are given by way of illustration only. Various changes and modifications within the spirit and scope of the disclosed invention will become readily apparent to those skilled in the art from reading the following.

> Brief Description of Drawings

Fig. 1 shows a powder X-ray diffraction pattern of B-type crystals of N-(trans-4-isopropyl-cyclohexylcarbonyl)-D-phenylalanine;

Fig. 2 shows an infra red absorption spectrum of B-type crystals of N-(trans-4-isopropyl-cyclohexylcarbonyl)-D-phenylalanine;

As indicated, one embodiment of the instant invention provides nateglinide in R'-type crystal form. Examples of the physical properties of the B-type and the R'-type crystal form of nateglinide are as follows:

The melting point (mp) of B-type nateglinide crystals has been measured by the DSC method to be in the range of 128 to 131°C.

An example of a melting point of the R'-type crystal form of nateglinide as measured by the DSC method has been found to be about 108°C.

An example of the powder X-ray diffraction patterns of the B-type crystal form of nateglinide may be found in Figure 1. The diffraction pattern of the B-type crystal form of nateglinide shows maxima at 2θ values of 3.9, 5.0, 5.2 and 14.1.

An example of an infrared absorption spectrum of B-type crystal form of nateglinide, obtained by a KBr method is shown in Figure 2. The infrared absorption spectrum of the B-type crystal form of nateglinide is characterized by absorptions at around 3291, 2955, 1737, 1642 and 1210 cm<sup>-1</sup>.

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Abstract

New crystal forms of N-(trans-4-isopropylcyclohexylcarbonyl)-D-phenylalanine, also known as nateglinide, may be produced by dissolving nateglinide in any of its forms, including solvates, in an organic solvent to form a solution followed by precipitation of nateglinide from the solution, and isolating and drying the precipitated crystal form of nateglinide. The precipitation of nateglinide may be induced either by cooling the solution, or by addition of another solvent which is miscible with the first solvent but in which nateglinide is only poorly soluble, or by combination of the two. Depending on the solvent a specific crystal form of nateglinide may be obtained, e.g., the R'-type crystal form of nateglinide produced by the described method has a different melting point, infra red spectra and X-ray diffraction patterns from the previously known crystal forms of nateglinide.